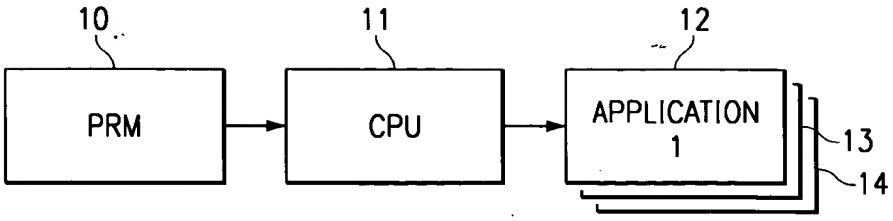


FIG. 1A

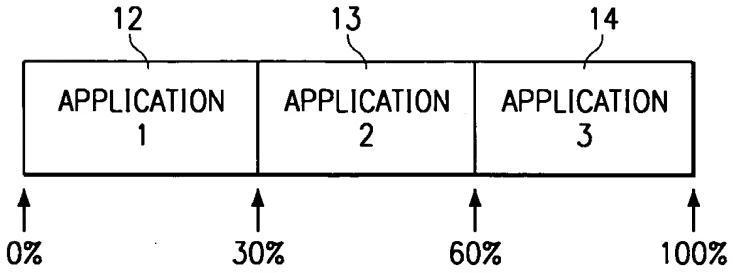


FIG. 1B

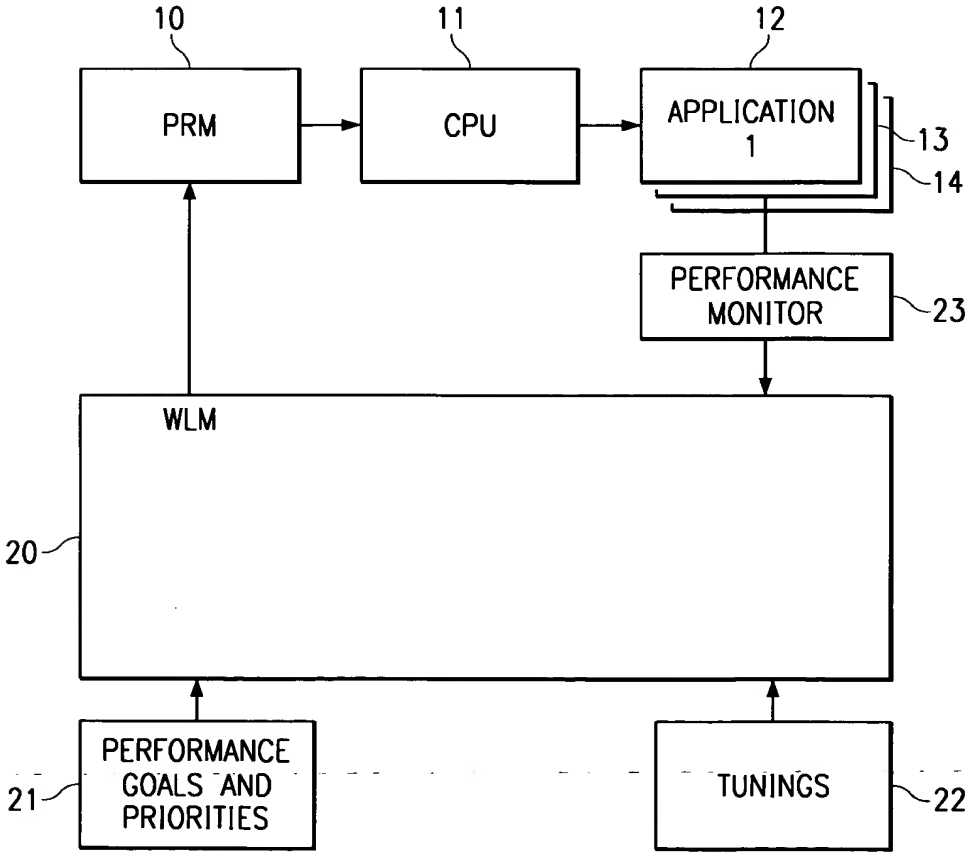


FIG. 2

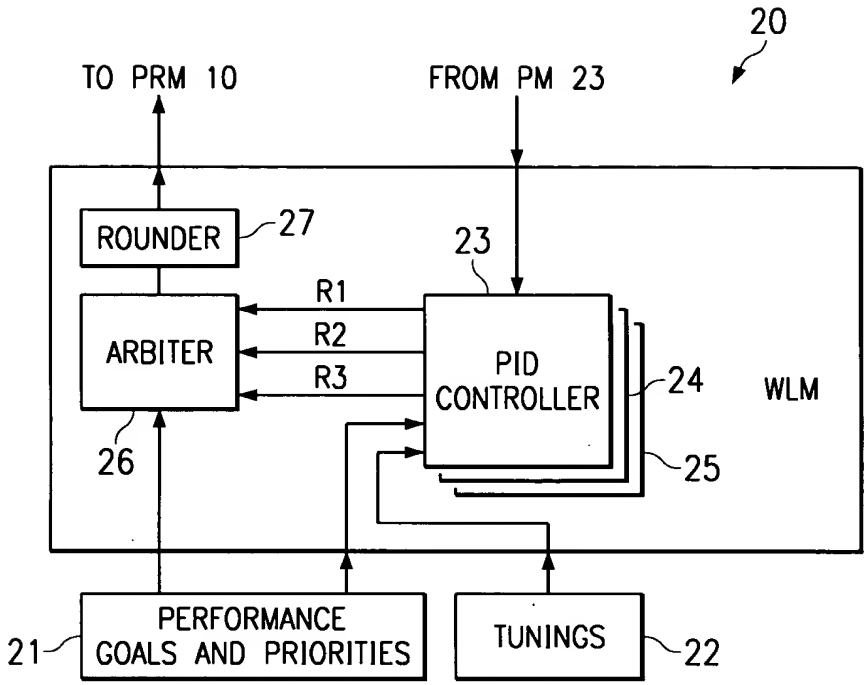

20
TO PRM 10
FROM PM 23
ROUNDER
27
23
R1
R2
R3
ARBITER
PID
CONTROLLER
24
WLM
26
25
PERFORMANCE
GOALS AND PRIORITIES
21
TUNINGS
22

FIG. 3

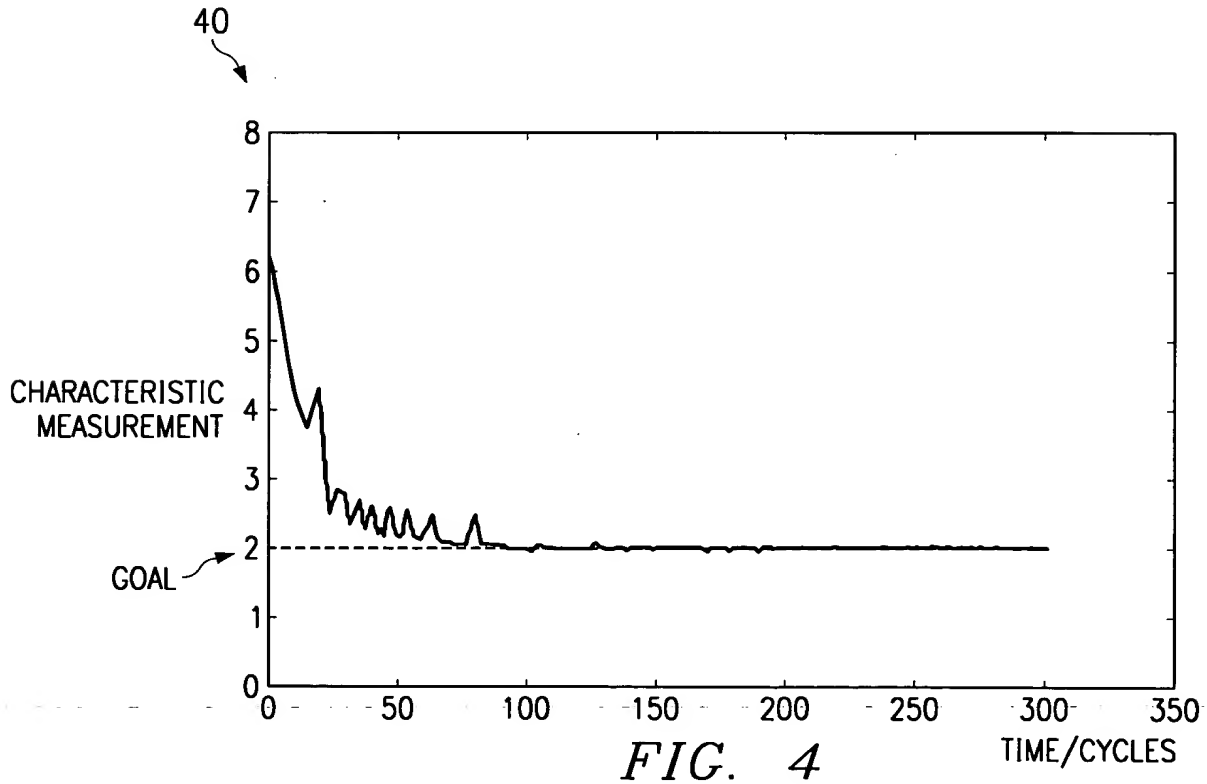

40
8
7
6
5
4
3
2
1
0
CHARACTERISTIC
MEASUREMENT
GOAL
0
50
100
150
200
250
300
350
TIME/CYCLES

FIG. 4

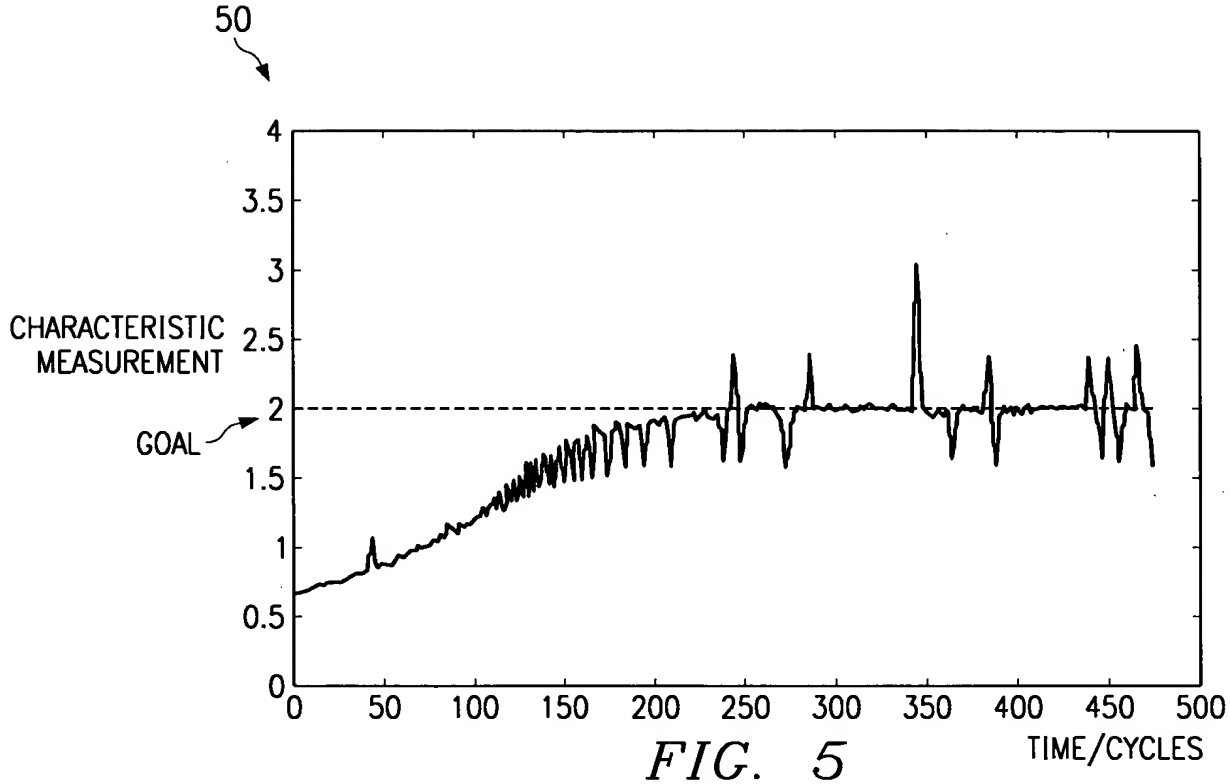

50
CHARACTERISTIC MEASUREMENT
GOAL
0
0.5
1
1.5
2
2.5
3
3.5
4
0
50
100
150
200
250
300
350
400
450
500
TIME/CYCLES

FIG. 5

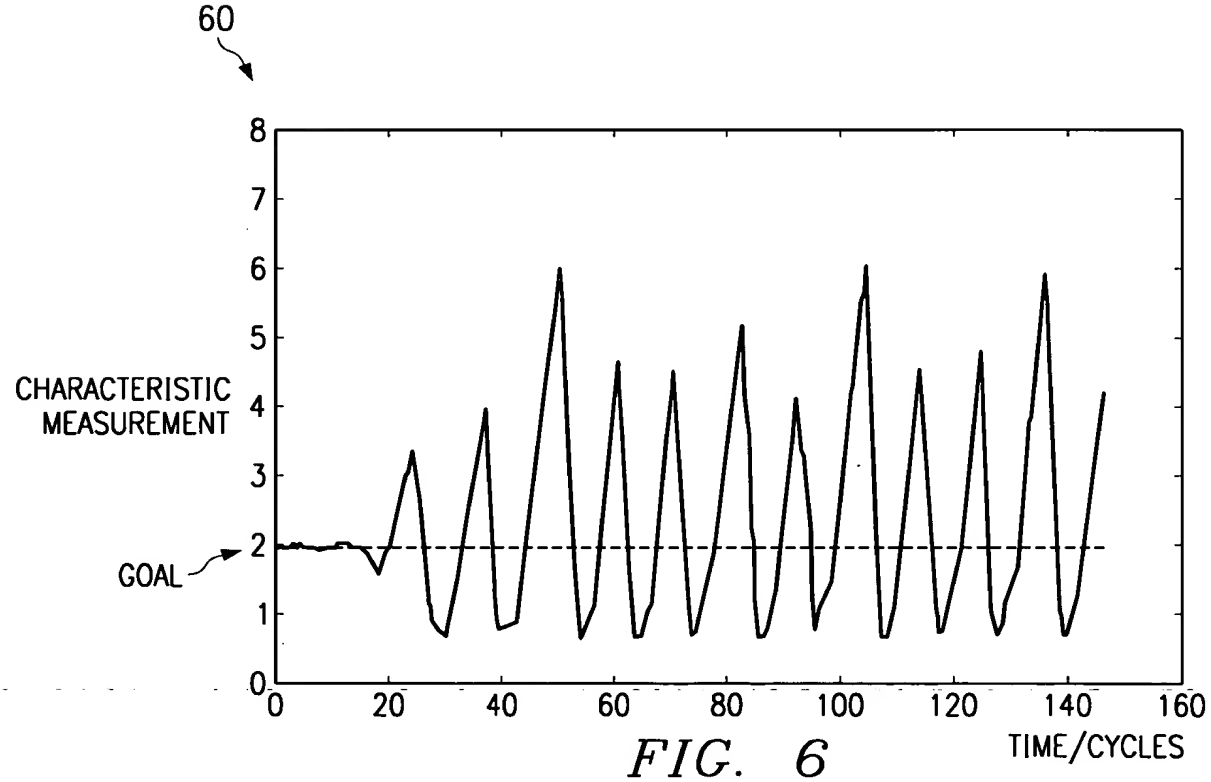

60
CHARACTERISTIC MEASUREMENT
GOAL
0
1
2
3
4
5
6
7
8
0
20
40
60
80
100
120
140
160
TIME/CYCLES

FIG. 6

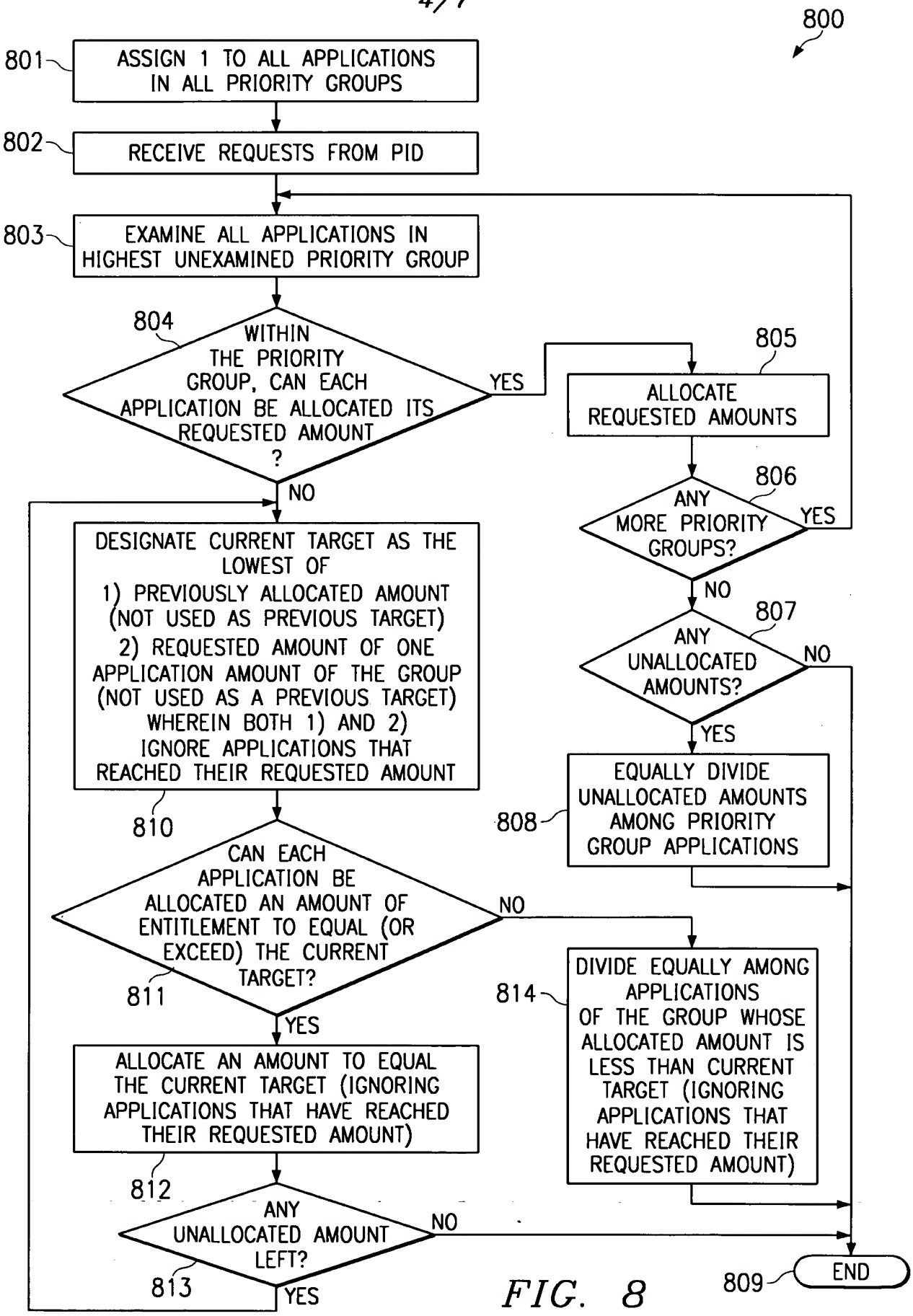
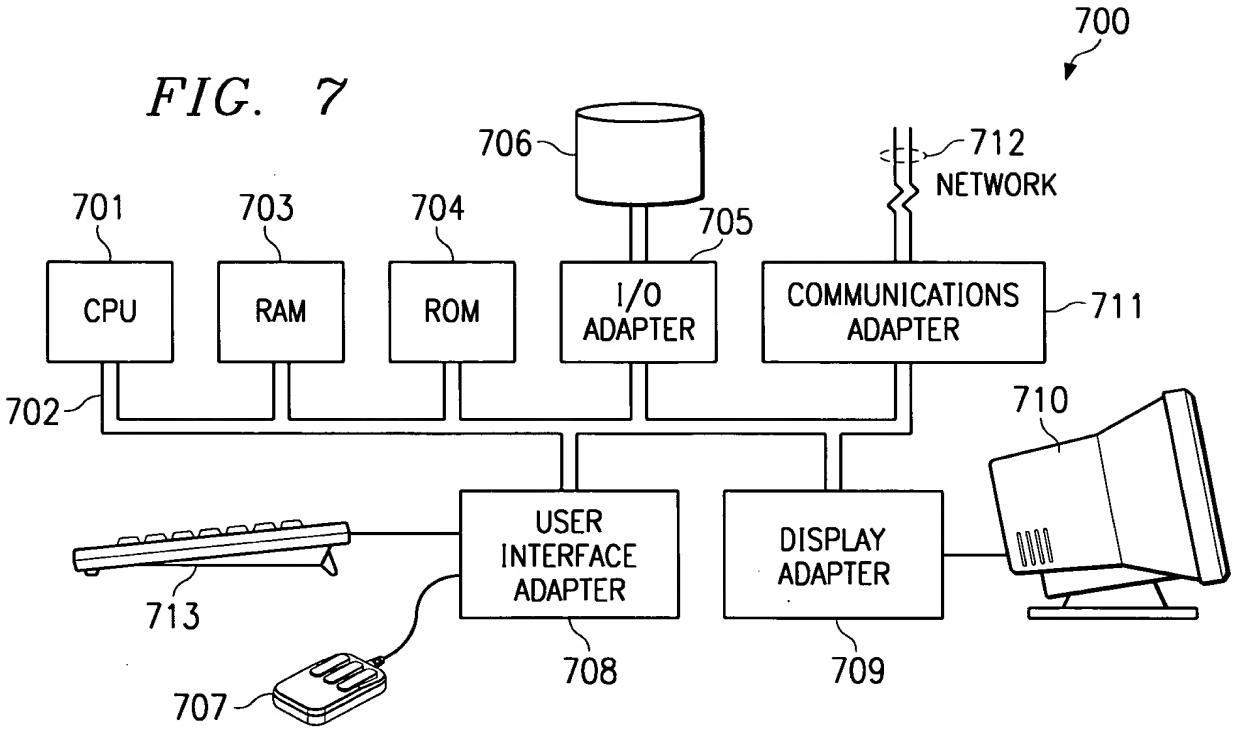

800
801
ASSIGN 1 TO ALL APPLICATIONS IN ALL PRIORITY GROUPS
802
RECEIVE REQUESTS FROM PID
803
EXAMINE ALL APPLICATIONS IN HIGHEST UNEXAMINED PRIORITY GROUP
804
WITHIN THE PRIORITY GROUP, CAN EACH APPLICATION BE ALLOCATED ITS REQUESTED AMOUNT ?
YES
NO
805
ALLOCATE REQUESTED AMOUNTS
806
ANY MORE PRIORITY GROUPS?
YES
NO
807
ANY UNALLOCATED AMOUNTS?
NO
YES
808
EQUALLY DIVIDE UNALLOCATED AMOUNTS AMONG PRIORITY GROUP APPLICATIONS
DESIGNATE CURRENT TARGET AS THE LOWEST OF
1) PREVIOUSLY ALLOCATED AMOUNT (NOT USED AS PREVIOUS TARGET)
2) REQUESTED AMOUNT OF ONE APPLICATION AMOUNT OF THE GROUP (NOT USED AS A PREVIOUS TARGET)
WHEREIN BOTH 1) AND 2) IGNORE APPLICATIONS THAT REACHED THEIR REQUESTED AMOUNT
810
CAN EACH APPLICATION BE ALLOCATED AN AMOUNT OF ENTITLEMENT TO EQUAL (OR EXCEED) THE CURRENT TARGET?
811
NO
YES
814
DIVIDE EQUALLY AMONG APPLICATIONS OF THE GROUP WHOSE ALLOCATED AMOUNT IS LESS THAN CURRENT TARGET (IGNORING APPLICATIONS THAT HAVE REACHED THEIR REQUESTED AMOUNT)
ALLOCATE AN AMOUNT TO EQUAL THE CURRENT TARGET (IGNORING APPLICATIONS THAT HAVE REACHED THEIR REQUESTED AMOUNT)
812
ANY UNALLOCATED AMOUNT LEFT?
NO
813
YES
809
END

FIG. 8

FIG. 7



APPLICATIONS	A	B	C	D	E	F
PRIORITY	1	2	3	3	3	4
REQUEST	40	29	20	20	20	35
ALLOCATION	40	29	10	10	10	1

FIG. 9

APPLICATIONS	A	B	C	D
PRIORITY	3	3	3	2
REQUEST	20	20	20	43
PREVIOUSLY ASSIGNED	10	1	15	1
NEWLY ALLOCATED	9	18	4	42
TARGET	19	19	19	43

FIG. 10A

A	B	C
10	1	15
31 LEFT	→	10 IS TARGET
10	10	15
22 LEFT	→	15 IS TARGET
15	15	15
12 LEFT	→	20 IS TARGET
19	19	19

FIG. 10B

APPLICATIONS	A	B	C	D
PRIORITY	3	3	3	2
REQUEST	25	15	30	33
PREVIOUSLY ASSIGNED	10	12	20	1
NEWLY ALLOCATED	15	3	7	32
TARGET	25	15	27	33

FIG. 11A

A	B	C
10	12	20
25 LEFT	→	TARGET IS 12
12	12	20
23 LEFT	→	TARGET IS 15
15	15	20
17 LEFT	→	TARGET IS 20
20	15	20
12 LEFT	→	TARGET IS 25
25	15	25
2 LEFT	→	TARGET IS 30
25	15	27

FIG. 11B

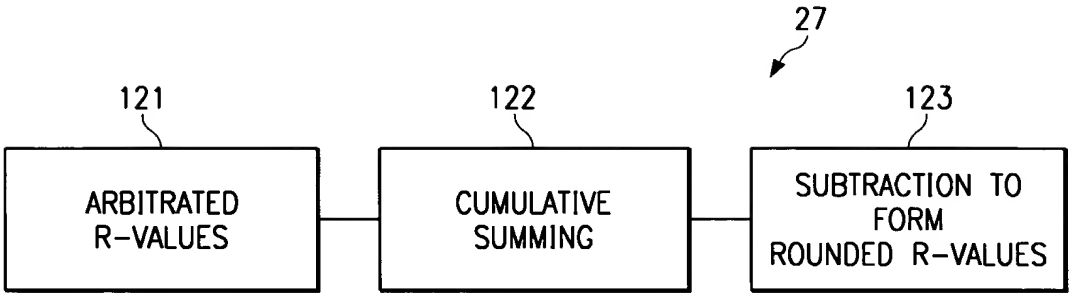


FIG. 12A

R1=33.5	S1=R1+0=33.5 → 34	R1'=S1−0=34
R2=33.5	S2=R1+R2=67.0 → 67	R2'=S2−S1=33
R3=33.0	S3=R1+R2+R3=100.0 → 100	R3'=S3−S2=33

FIG. 12B

R1=10.1	S1=R1+0=10.1 → 10	R1'=S1−0=10
R2=20.2	S2=R1+R2=30.3 → 30	R2'=S2−S1=20
R3=30.3	S3=R1+R2+R3=60.6 → 61	R3'=S3−S2=31
R4=39.4	S4=R1+R2+R3+R4=100.0 → 100	R4'=S4−S3=39

FIG. 12C